

Donald Abelson
Chief of the International Bureau
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

Dear Mr. Abelson:

The National Telecommunications and Information Administration on behalf of the Executive Branch Agencies, has approved the release of additional Preliminary Executive Branch (NTIA) Views considering federal agency inputs toward the development of U.S. Preliminary Views for WRC-2003. The enclosure is forwarded for review by your WRC-2003 Advisory Committee.

The enclosure contains some new and some modified documents. In a number of cases NTIA has previously forwarded preliminary views with only the "Issue and Background" section completed. The "U.S. View" section has been completed for some of these preliminary views and in those cases the new "U.S. View" text has been underlined. In some cases changes have been made to previously forwarded "Background and Issue" sections of our preliminary views. These changes are shown with underline and strikeout markings. Draft preliminary views which no text has been forwarded previously, is shown as a clear document, (no underlining). Karl Nebbia from my staff will contact Julie Garcia and reconcile any differences.

Sincerely,

(Original Signed April 27, 2001)
William T. Hatch
Associate Administrator
Office of Spectrum Management

Enclosure

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.2: to review and take action, as required, on No. **S5.134** and related Resolutions **517 (Rev.WRC-97)** and **537 (WRC-97)** and Recommendations **515 (REV.WRC-97)**, **517 (Rev. WRC-2000)**, **519 (WARC-92)** and Appendix **S11**, in the light of the studies and actions set out therein, having particular regard to the advancement of new modulation techniques, including digital techniques, capable of providing an optimum balance between sound quality, bandwidth and circuit reliability in the use of the HF bands allocated to the broadcasting service;

ISSUE: Preparing the regulatory way for the introduction of digital modulation use in the HF broadcasting bands.

BACKGROUND: Starting around 1995, active design and experimentation is being done on the use of digital modulation techniques for use in all the broadcasting bands below 30 MHz. Because of the special international broadcasting role at HF, documentation of an essentially regulatory nature began to be introduced within the ITU-R, initially through Study Group 10 (now Study Group 6).

WRC-97, in response to the development up to that time of digital modulation for HF broadcasting, modified some of the articles, resolutions and recommendations pertinent to HF broadcasting. There was no agenda item at WRC-2000 associated with HF broadcasting.

The future agenda item committee at WRC-2000, however, approved this agenda item for WRC-03 as a comprehensive item to permit WRC-03 to modify all the relevant ITU-R material cited in the agenda item in order to pave the regulatory way for the introduction of digital radio in the HF bands. This is being done at this time so as not to delay the introduction of improved radio in these bands beyond the time when industry will be able to have consumer radios on the market.

The collection of articles, resolutions and recommendations cited in the agenda item relate to:

- Access to WARC-92 extension bands for HFBC
- New system parameters, transmitter and receiver surveys, manufacturing implementation
- Protection ratios
- Cessation of double sideband analog modulation.

U.S. VIEW: Since the development of digital modulation for HF broadcasting is currently undergoing a standardization process, and thus in the next few years it is expected that there will be consumer radios available with digital modulation capability, the U.S. supports developing the necessary changes to the resolutions, recommendations and regulations cited in this agenda item to accommodate digital modulation techniques for those bands that are allocated in accordance with Article S5 as bands for exclusive use for the broadcasting service. (April 9, 2001)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.4: to consider the results of studies related to Resolution **114 (WRC-95)** dealing the use of the band 5 091-5 150 MHz by the fixed-satellite service (Earth-to-space) (limited to Non-GSO MSS feeder links) and review the allocations to aeronautical radionavigation service and the fixed-satellite service in the band 5 091-5 150 MHz;

Resolution **114 (WRC-95)** Use of the band 5 091-5 150 MHz by the fixed-satellite service (Earth-to-space) (limited to feeder links of the Non-Geostationary Mobile-Satellite Service)

ISSUE: WRC-2003 will review the results of studies on the technical and operational issues related to sharing of the band 5 091-5 150 MHz between the aeronautical radionavigation service and the fixed-satellite service providing feeder links of the non-geostationary mobile-satellite service (Earth-to-space). Are there requirements for MLS to use spectrum above 5 091 MHz, if yes, in what time frame? To what extent have MSS feeder links used spectrum to-date in the range 5 091-5 150 MHz? Would the MSS feeder links coexist with ARNS on a secondary basis or is there transition of feeder link use expected to frequencies above 5 150 MHz? Are revisions required to the current regulatory provisions (footnotes **S5.444** and **S5.444A** and Resolution **114 (WRC-95)** and if so, what revisions?

BACKGROUND: Resolution **114 (WRC-95)** requested ITU-R to study issues concerning sharing between Aeronautical Radionavigation Service (ARNS) and feeder links to Mobile Satellite Service (MSS) (Earth-to-space) in the band 5 091-5 150 MHz and to report results of the studies to WRC-2003. The use of this band by Microwave Landing Systems (MLS) and MSS feeder links is subject to footnotes **S5.444** and **S5.444A**, in particular the following conditions apply:

- prior to 1 January 2010, the use of the band 5 091-5 150 MHz by feeder links of non-geostationary-satellite systems in the mobile-satellite service shall be made in accordance with **Resolution 114 (WRC-95)**;
- prior to 1 January 2010, the requirements of existing and planned international standard systems for the ARNS which cannot be met in the 5 000-5 091 MHz band, shall take precedence over other uses of this band;
- after 1 January 2008, no new assignments shall be made to stations providing feeder links of non-geostationary mobile-satellite systems;
- after 1 January 2010, the fixed-satellite service will become secondary to the ARNS.

Sharing studies between NGSO/MSS feeder links and microwave landing systems resulted in ITU-R Recommendation S.1342 "Method for determining coordination distances, in the 5 GHz band, between the international standard microwave landing system in the aeronautical radionavigation service and non-geostationary mobile satellite service stations providing feeder uplink services." These studies showed that compatibility between MLS receivers and MSS feeder links (Earth-to-space) could exist if sufficient geographical separation exists between the two stations. As a result, Recommendation **S.1342** was adopted to trigger coordination between the two operators to determine the acceptability of an MSS site, possibly with or without restrictions.

U.S. VIEW: There appears to be no justification at this time for the relationship between ARNS and the FSS to change. The existing coordination process for NGSO MSS feeder links is adequate for protecting MLS. The FSS has a primary allocation in the band, although it becomes secondary to ARNS after January 1, 2010. Therefore, no change to the allocation table in the band 5091-5150 MHz, including footnotes **S5.444** and **S5.444A**. (April 16, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.7: To consider issues concerning the amateur and amateur satellite services;

ISSUE: Issues concerning Amateur Radio - 1.7.1 possible revision of Article **S25**

BACKGROUND: This item was prompted by a proposal at WRC-95 to delete the requirement for amateurs to demonstrate Morse code capability to be licensed to operate on amateur bands below 30 MHz. At that WRC, the International Amateur Radio Union (IARU) requested a delay because it needed to consult its three regional organizations, which meet in turn over a three-year period. This consultation has taken place and IARU provided an input document to Working Party 8A at its 1999 meeting and made a further input at WP 8A's 2000 meeting. The inputs resulted in a Draft New Recommendation adopted at SG 8. The DNR establishes minimum qualifications for amateur operators and provides for knowledge of various methods of radiocommunication including radiotelegraphy but does not specify Morse code. The draft CPM text generated by WP 8A in November 2000 says that the Morse code provision could be suppressed by WRC-2003 and the DNR could be considered for possible incorporation by reference.

Other provisions of Article **S25** that are to be addressed under this agenda item are provisions concerning third party traffic and reciprocal operating agreements.

U.S. VIEW: The U.S. supports the suppression of Morse code requirement for amateurs. (April 10, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.7: To consider issues concerning the amateur and amateur satellite services;

ISSUE: Issues concerning Amateur Radio - 1.7.3 review the terms and definitions of Article **S1** to the extent required as a consequence of changes made in Article **S25**.

BACKGROUND: This item originated at WRC-2000. If changes or modifications are made to either **Article S1** or **Article S25**, then each Article will need to be reviewed. The U.S. wanted this item removed, but was not successful but succeeded in adding the provision "to the extent required as a consequence of changes made in **Article S25**."

U.S. VIEW: The U.S. believes there is no need to modify Article **S25**, except under agenda item 1.7.1 (Article **S25.5**). (April 10, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.8.2: consideration of the results of studies, and proposal of any regulatory measures regarding the protection of passive services from unwanted emissions, in particular from space service transmissions, in response to recommends 5 and 6 of Recommendation **66 (Rev.WRC-2000)**

ISSUE: Protection of Passive Services from Unwanted Emissions.

BACKGROUND: Because of their highly sensitive receivers, needed to detect weak signals from sources that are usually beyond their control, passive systems in the radio astronomy, Earth exploration-satellite, and space research services are particularly susceptible to radio frequency interference.

For years the ITU-R has sought a solution to the problem of unwanted emission interference to passive systems, especially from satellites. Measures taken by passive systems to avoid interference may restrict the operation of the passive systems and thereby reduce their value. On the other hand, filtering of satellite emissions in the passive service bands may be costly or impractical.

This issue is currently the subject of Task Group 1/7, established in November 2000. Recent work on this issue by Task Group 1/5 led to “band-by-band” studies to quantify the problem and explore possible solutions. Progress in TG 1/7 on this issue will require *very* creative ideas and perhaps willingness on the part of space and passive interests to compromise.

U.S. VIEW:

- Unless Task Group 1/7 can reach a broad agreement that successfully meets the requirements of both the passive and active services, protection of radio astronomy will likely involve solutions specific to frequency bands, radio astronomy station sites, and specific active systems. The solutions may or may not involve revisions to the *Radio Regulations*.
 - The U.S. does not support the inclusion of across the board passive service protection criteria from RA.769 (for radio astronomy) or Rec. SA1029 (for remote sensors) in, for example, Article **S21**, or incorporating them by reference. (April 27, 2001)
-

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.9: to consider Appendix **S13** and Resolution **331 (Rev.WRC-97)** with a view to their deletion and, if appropriate, to consider related changes to Chapter SVII and other provisions of the Radio Regulations, as necessary, taking into account the continued transition to and introduction of the Global Maritime Distress and Safety System (GMDSS);

ISSUE: Review of Appendix **S13** (Distress and Safety Communications (non-GMDSS)) and Resolution 331 with the view of deleting duplicate or unneeded provisions to their deletion, and appropriate related changes to Chapter SVII (GMDSS) to provide for distress communications of non-GMDSS ships.

BACKGROUND: In accordance with the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, all ships subject to this convention were fitted for the Global Maritime Distress and Safety System (GMDSS) by 1 February 1999. GMDSS changed maritime distress and safety communications from essentially a ship-to-ship to primarily a ship-to-shore system. This change was based on the theory that a properly established shore facility could better organize a search and rescue effort. It further changed a highly manpower intensive system to one with considerable automation. During the transition period to full implementation of the GMDSS, the RR had dual provisions; Appendix S13 includes the non-GMDSS provisions. Since the GMDSS provisions are applicable only to SOLAS vessels, there are a considerable number of maritime vessels that are not fitted with the automated communications systems, necessitating some continued operation on consideration of frequencies and modes used prior to the implementation of GMDSS. of operation for their distress and safety communications. Support of the old and new distress and safety systems for an extended period of time is ~~not~~ cost prohibitive. Many administrations have worked to increase fitting of GMDSS elements (e.g., radios incorporating DSC functions and satellite EPIRBs) on non-SOLAS vessels through rule-makings for specific classes of vessels and equipment certification requirements. This agenda item would review the requirements included in S13 with the expectation of time-phased deletion of some of the non-GMDSS requirements. (February 7, 2001) However, some provisions need to be added to Chapter SVII to cater to the needs of non-SOLAS ships. This agenda item is intended to consider the deletion of Appendix S13 and Resolution 331 at a time when GMDSS is fully implemented and applicable provisions are appropriately included in Chapter SVII. It was not intended that Appendix S13 be revised or edited.

U.S. VIEW: Deletion of Appendix S13 is premature at this time. If Appendix S13 is suppressed, non-GMDSS ships will not have sufficient provisions to meet their distress and safety communication requirements.

Resolution 331 and Chapter SVII may need to be revised to reflect current status of GMDSS implementation. (April 27, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

We have two versions of this preliminary view because there were so many changes made since the first version

(Agenda Item 1.10.1 with strikeout and underline text)

WRC-2003 Agenda Item 1.10.1: to consider the results of studies, and take necessary actions, relating to exhaustion of the maritime mobile service identity numbering resource (Resolution 344 (WRC-97));

ISSUE: Resolution 344 is on the agenda so that WRC-2003 may assess the status of MMSI assignments to administrations and determine whether there is an impending exhaustion of the MMSI numbering resource.

BACKGROUND: Presently Maritime mobile service identities (MMSIs) are required for many shipboard communications equipment (e.g., DSC, mobile earth stations). ~~As the number of vessels carrying these systems increase, the availability of MMSIs have decreased. This is due to the near exhaustion of available Maritime Identification Digits (MIDs). The ITU, following established procedures, refuses to provide additional MIDs until administrations populate the ITU databases and List of Ship Stations.~~

BACKGROUND: ~~The MMSI (Article S19) is a 9-digit number to uniquely identify ship stations, group ship stations, coast stations, and group coast stations. The first three of the nine MMSI digits are the Maritime Identification Digits (MIDs). MIDs represent a territory or geographical area of administrations and are assigned by the ITU. Thus within each MID area there are 6 digits available to identify the stations. The total possible number of MMSIs is reduced by a requirement to assign MMSIs ending in 3-zeros to vessels requiring access to certain satellite services. Therefore, for each MID (administrations can be assigned more than one MID), there are only 1000 numbers available for use by ships with INMARSAT satellite systems. As the number of vessels carrying INMARSAT satellite systems increase, so has the demand for MMSIs with three trailing zeros. Early on the ITU-R recognized this limitation of MMSIs for these satellite systems within each MID. Additional MIDs are now assigned by the ITU based on an administration exhausting available MMSIs based on the total number of ship stations to administrations when they have used 80% of the MMSIs with three trailing zeros. The ITU uses the notification requirements of Article S19 as evidence of use of the numbers with the three trailing zeros. Normally, these are notified and entered into the ITU maritime database shown on the ITU List of Ship Stations. This and published in List VII A, List of Call Signs and Numerical Identities. The ITU, following established procedures, will not provide additional MIDs until administrations provide the ITU with evidence that 80% of their 1000 allotted MMSIs with three trailing zeros have been assigned. Although the resource of problem is exacerbated for administrations that do not normally register non-convention vessels or military vessels in the ITU List of Ship Stations or other ITU databases. (February 6, 2001)~~

U.S. VIEW:specifically these MMSIs is limited, it is anticipated to be sufficient to meet the needs of the maritime community for the foreseeable future. The present concern stemming from the INMARSAT numbering scheme may be ameliorated by the end of the useful life of certain existing INMARSAT ship earth stations. The ITU will report on the status of the resource and if exhaustion is anticipated, urgent studies can be initiated between ITU-T Study Group 2 and ITU-R Study Group 8 to agree on necessary changes in their respective guidance to obtain some additional resources.

U.S. VIEW: Depending on the results from the Director of the Radiocommunication Bureau on the impending exhaustion of the MMSI resource for certain MIDs, the ITU-R and ITU-T may need to address consequential changes to their respective recommendations affecting the assignment and use of MMSIs and the MID numbering resource.

If the report of the Bureau indicates no pending exhaustion of the resource within the next few years, the U.S. will support revising Resolution **334** (WRC-97), to instruct the Bureau to provide an updated report at a future WRC. (April 17, 2001)

(Agenda Item 1.10.1 without the ~~strikeout~~ underline text)

WRC-2003 Agenda Item 1.10.1: to consider the results of studies, and take necessary actions, relating to exhaustion of the maritime mobile service identity numbering resource (Resolution **344 (WRC-97)**);

ISSUE: Resolution **344** is on the agenda so that WRC-2003 may assess the status of MMSI assignments to administrations and determine whether there is an impending exhaustion of the MMSI numbering resource.

BACKGROUND: Presently Maritime mobile service identities (MMSIs) are required for many shipboard communications equipment (e.g., DSC, mobile earth stations). The MMSI (Article **S19**) is a 9-digit number to uniquely identify ship stations, group ship stations, coast stations, and group coast stations. The first three of the nine MMSI digits are the Maritime Identification Digits (MIDs). MIDs represent a territory or geographical area of administrations and are assigned by the ITU. Thus within each MID area there are 6 digits available to identify the stations. The total possible number of MMSIs is reduced by a requirement to assign MMSIs ending in 3-zeros to vessels requiring access to certain satellite services. Therefore, for each MID (administrations can be assigned more than one MID), there are only 1000 numbers available for use by ships with INMARSAT satellite systems. As the number of vessels carrying INMARSAT satellite systems increase, so has the demand for MMSIs with three trailing zeros. Early on the ITU-R recognized this limitation of MMSIs for these satellite systems within each MID. Additional MIDs are now assigned by the ITU to administrations when they have used 80% of the MMSIs with three trailing zeros. The ITU uses the notification requirements of Article S19 as evidence of use of the numbers with the three trailing zeros. Normally, these are notified and entered into the ITU maritime database and published in List VII A, List of Call Signs and Numerical Identities. The ITU, following established procedures, will not provide additional MIDs until administrations provide the ITU with evidence that 80% of their 1000 allotted MMSIs with three trailing zeros have been assigned. Although the resource of specifically these MMSIs is limited, it is anticipated to be sufficient to meet the needs of the maritime community for the foreseeable future. The present concern stemming from the INMARSAT numbering scheme may be ameliorated by the end of the useful life of certain existing INMARSAT ship earth stations. The ITU will report on the status of the resource and if exhaustion is anticipated, urgent studies can be initiated between ITU-T Study Group 2 and ITU-R Study Group 8 to agree on necessary changes in their respective guidance to obtain some additional resources.

U.S. VIEW: Depending on the results from the Director of the Radiocommunication Bureau on the impending exhaustion of the MMSI resource for certain MIDs, the ITU-R and ITU-T may need to address consequential changes to their respective recommendations affecting the assignment and use of MMSIs and the MID numbering resource.

If the report of the Bureau indicates no pending exhaustion of the resource within the next few years, the U.S. will support revising Resolution **334 (WRC-97)**, to instruct the Bureau to provide an updated report at a future WRC. (April 17, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.10.2: to consider the results of studies, and take necessary actions, relating to shore-to-ship communication priorities (Resolution **348** (WRC-97));

ISSUE: A shore-based search and rescue authority has no means to interrupt or preempt the satellite communications to a vessel in a distress or safety situation. This communications inability may increase the probability of lost of life and property.

BACKGROUND: At present, when vessels are using their ship earth stations, it is not possible to send them a distress or safety message without extremely complex and time-consuming manual intervention at a land earth station to remove all other shipboard traffic. Although this is technically possible, it is not practical. In a recent distress case, the shore-based search and rescue authorities were unable to contact a vessel because of on-going routine traffic to the vessel. This inability to preempt lower priority traffic hindered the overall search and rescue operation. A shore-based search and rescue authority must have the means to interrupt or preempt the satellite communications to a vessel in a distress or safety situation, without using extremely complex and time-consuming manual intervention.

The International Maritime Organization considered this problem and decided that provisions are necessary for giving priority to shore-originated distress communications. INMARSAT is aware of this requirement and has been studying how to provide such priority arrangements.

U.S. VIEW: For any GMDSS system, including future generations of mobile satellite systems intended for use aboard ships as part of its distress and safety communications, shore-originated search and rescue communications must be given priority. If practicable, this capability should be incorporated in existing GMDSS systems. If not, specific manual procedures should be standardized. Future generations of GMDSS systems must include this capability.

The U.S. will consider IMO and INMARSAT findings and their proposed methods to provide priority for shore-originated distress communications, with a view to modifying provisions of the Radio Regulations. The U.S. supports development of appropriate Resolutions or ITU-R Recommendations to ensure priority access is secured for shore-originated distress communications. (April 16, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.12a: to consider allocations and regulatory issues related to the space science services in accordance with Resolution **723 (Rev.WRC-2000)** and to review all Earth exploration-satellite service and space research service allocations between 35 and 38 GHz, taking into account Resolution **730 [COM5/1] (WRC-2000)**;

ISSUE: Resolution **723 (Rev.WRC-2000)** resolves to recommend that WRC-03 consider the provision of up to 3 MHz of frequency spectrum for the implementation of telecommand links in the space research and space operations services in the frequency range 100 MHz to 1 GHz.

BACKGROUND: ITU-R Recommendation **SA.363-5** recommends that frequencies below 1 GHz are technically suitable for telecommand of satellites in the space science services operating below an altitude of 2000 km. A deficiency in telecommand (uplink) frequency allocations has been previously identified, compared to the available telemetry (downlink) allocations in the 100 MHz to 1 GHz range. This deficiency was first noted in Resolution **712 (WARC-92)**, repeated in Resolution **712 (Rev. WRC-95)**, and again in Resolution **723 (WRC-97)**.

This item was originally placed on the WRC-97 agenda due to the imbalance that exists between telemetry spectrum and telecommand spectrum in the 100 MHz to 1 GHz region. WRC-97 determined that insufficient study had been completed to take action on this agenda item. Sharing studies are currently being carried out within ITU-R WP 7B to determine whether or not these telecommand links will interfere with ~~fixed and mobile (to include airborne mobile)~~ existing or planned systems of other administrations. ~~(February 6, 2001)~~ radio services that are allocated in bands of interest in the 100 MHz to 1 GHz region.

U.S. VIEW:ITU-R WP 7B has indicated that certain sub-bands in the region 100 MHz to 1 GHz are of interest for use by telecommand links in the space research and space operations services. The range 257 - 262 MHz has specifically been identified by Russia/Ukraine as being of interest. The U.S. and other administrations operate critical air-ground-air communications with military aircraft, radio relay operations, and tactical and strategic satellite communications over the entire 225-400 MHz range.

U.S. VIEW: The U.S. opposes new allocations to the space research and space operations services in the band 225 - 400 MHz. Proposals for allocations in other portions of the range 100 MHz to 1 GHz will be examined as to their merit, and further U.S. views will be developed as appropriate. (April 10, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.14: to consider measures to address harmful interference in the bands allocated to the maritime mobile and aeronautical mobile (R) services, taking into account Resolutions **207 (Rev.WRC-2000)** and **350/[COM5/12](WRC-2000)**, and to review the frequency and channel arrangements in the maritime MF and HF bands concerning the use of new digital technology, also taking into account Resolution **347 (WRC-97)**;

ISSUE: There has been considerable interference to HF frequencies used by the aeronautical and maritime mobile services for distress and safety communications.

A second related issue involves a need for more effective methods for ships and coast stations to call ships using DSC for routine communications.

~~Routine calling is prohibited on channels allocated for digital selective calling (DSC) under the GMDSS. Additionally, proposals were made to prohibit routine calling on several HF frequencies that are not part of the GMDSS and are presently allocated for distress, safety and calling. Removal of the calling function may present potential communications difficulties among and between GMDSS and non-GMDSS fitted vessels.~~

BACKGROUND: In an ongoing effort to reduce interference to HF distress and safety frequencies used in the GMDSS, ~~previous conferences determined that~~ WRC-2003 prohibited general calling ~~should not be made on channels allocated for distress. Although this may reduce the amount of traffic on these channels, it reduces or eliminates the ability of vessels to call or~~ GMDSS distress and safety traffic. Prior to WRC-2000, the radio regulations permitted routine voice calling on the two GMDSS duplex distress and safety traffic channels ~~communicate with other vessels for routine purposes. This could occur since GMDSS fitted vessels are not required to monitor channels outside the GMDSS requirements (e.g., HF DSC).~~

in the 12 and 16 MHz band. The U.S. reasoned that users of these frequencies for calling would not interfere with distress traffic if proper procedures were followed. WRC-2000 actions create additional impact on search and rescue organizations who maintain watch on these distress and safety frequencies and who also use these frequencies to call ships not ~~It has additionally been proposed that frequencies 12 290 kHz (channel 1221) and 16 420 kHz (channel 1621) be re-allocated to distress and safety only (i.e., remove the calling function)~~ required to fit GMDSS equipment. Removal of the calling function would require vessels to increase their monitoring capabilities (e.g., monitor distress channels and calling channels). (February 6, 2001) search and rescue organizations to maintain watches on the distress and safety as well as the calling channels. Additionally, this change would require non-GMDSS vessels in emergency situations to first make a distress call on the routine calling channel before moving to the 12 or 16 MHz distress and safety channel. This, in practice, is difficult to do and may result in loss of communications. The ability to guard both the calling and the distress and safety channels would require additional equipment resources and increased operational cost.

At present, routine calling is prohibited on channels allocated for DSC distress calling. This prohibition was implemented due to concern that routine calling might overload the DSC Distress and Safety channel. Currently, very little public correspondence use is made on HF using DSC. Additionally, GMDSS ships are not required to guard any routine calling channels. Therefore, if routine calling is to be effective, it must occur on DSC distress calling channels or new watchkeeping requirements for GMDSS vessels must be imposed.

Resolution 207 (Rev. WRC-2000) contains provisions and measures to combat the growing concern of aviation authorities over the increased interference to operational safety communications caused by unauthorized (illegal) transmissions. Interference to safety communications with aircraft in the HF bands in some areas of the world is now a matter of very serious concern to civil aviation authorities, and to aircraft operating in those areas. International civil aviation fully supports the development of measures to strengthen the Radio Regulations, as feasible, and their application by administrations to avoid the occurrence of safety infringing events and to lead to the eventual cessation of these unauthorized transmissions.

U.S. VIEW: The U.S. will consider ITU-R studies in response to Resolution 350 regarding the geographical distribution and level of interference in these bands with a view to identifying the possible causes of any interference and alternative solutions. The U.S. will consider modifying the Regulations where appropriate and consider any other actions that may be needed to enforce the current provisions of the Radio Regulations. Furthermore, consideration will also need to be given to the increased use of digital telecommunications technologies and how best to accommodate this through changes to Article S52 and Appendix S17.

The U.S. will continue to monitor developments in the ITU-R regarding interference to 12 290 kHz and 16 420 kHz (**Resolution 350**). The results of interference studies will be used as a basis to determine if it is necessary to prohibit routine calling on HF frequencies that are used in the GMDSS for distress and safety traffic by radiotelephone and are presently allocated for distress, safety and calling. Removal of the calling function on 31 December 2003 presents potential difficulty in establishing unscheduled initial contacts to and from ships.

The U.S. also supports permitting DSC routine calling on DSC distress and safety calling frequencies by ships when attempting to communicate with other ships known to be in their area but outside VHF. The aviation community is best suited for addressing any HF interference mitigation solutions. No regulatory changes to the ITU radio regulations are necessary at this time. Any proposed solutions affecting technical characteristics of currently used equipment and solely aimed at mitigating the effects of interference must be carefully assessed by civil aviation as to their affect on internationally agreed standards, and to their practical effectiveness in both the short and the long term. Enforcement of existing regulatory provisions, cooperative action by administrations, and the implementation of recommended measures and techniques, aimed at reducing this threat to the safety of air operations is necessary to help mitigate the occurrences of harmful interference on aeronautical safety communication channels. (April 27, 2001)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.15a: to review the results of studies concerning the radionavigation-satellite service in accordance with Resolutions **604/[COM5/16] (WRC-2000)**, **605/[COM5/19] (WRC-2000)** and **606/[COM5/20] (WRC-2000)**;

ISSUE: Establishment of a power flux density (PFD) limit in the band 1164-1215 MHz for the protection to the aeronautical radionavigation service (ARNS) from the new radionavigation-satellite service (RNSS) (space-to-Earth).

BACKGROUND: At the 2000 World Radiocommunication Conference (WRC-2000), a new allocation for RNSS (space-to-Earth) was adopted. Also, WRC-2000 adopted footnote **S5.328A**, which states “*Additional allocation:* the band 1 164-1 215 MHz is also allocated to the radionavigation-satellite service (space-to-Earth) (space-to-space) on a primary basis. The aggregate power flux-density produced by all the space stations of all radionavigation-satellite systems at the Earth’s surface shall not exceed the provisional value of -115 dB(W/m²) in any 1 MHz band for all angles of arrival. Stations in the radionavigation-satellite service shall not cause harmful interference to, nor claim protection from, stations of the aeronautical-radionavigation service. The provisions of Resolution **605 [COM5/19] (WRC-2000)** apply.” Generally RNSS receivers are not susceptible to interference from individual ARNS systems, so that co-frequency operation of the two services is possible. If there are a large number of ARNS transmitters, for example distance measuring equipment (DME), an aircraft at a high altitude may experience interference to its RNSS receiver. At WRC-2000 one administration expressed an opinion that only DMEs should be protected. Some administrations also want to protect RNSS systems from ARNS systems, specifically DMEs. In the U.S., the Federal Aviation Administration has started reassigning DMEs to eliminate the potential for interference. In the International Telecommunication Union, Working Party 8D is studying the methodologies for calculating an aggregate PFD limit. (April 10, 2001)

U.S. VIEW:

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.15c: to review the results of studies concerning the radionavigation-satellite service in accordance with Resolutions **604/[COM5/16] (WRC-2000)**, **605/[COM5/19] (WRC-2000)** and **606/[COM5/20] (WRC-2000)**;

ISSUE: Protection of microwave landing systems (MLS) from emissions of systems operating under the new radionavigation-satellite service (RNSS) (Earth-to-space).

BACKGROUND: At the 2000 World Radiocommunication Conference, an allocation for the RNSS (Earth-to-space) was adopted in the band 5000-5010 MHz. There is concern that microwave landing systems (MLS) that operate in the band 5030-5091 MHz may receive interference from the RNSS earth stations. The U.S. has proposed a new draft recommendation in U.S. Working Party 8D that contains a coordination trigger distance and a means to calculate it. (April 10, 2001)

U.S. VIEW:

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-03 Agenda Item 1.18: to consider a primary allocation to the fixed service in the band 17.3-17.7 GHz for Region 1, taking into account the primary allocations to various services in all three Regions;

Issues:

- A Region 1 primary allocation to the fixed service in the 17.3-17.7 GHz band may adversely impact U.S. worldwide radar operations in the band.
- Fixed service systems may potentially interfere with BSS feeder links operating in the fixed-satellite service (Earth-to-space) in the band 17.3 - 18.1 GHz.

Background: The 17.3-17.7 GHz band is allocated to the fixed-satellite service (Earth-to-space) on a primary basis in all three Regions, while the use of the band by geostationary satellites is limited to BSS feeder links under **S5.516**. The broadcasting-satellite service is also allocated on a primary basis in Region 2, and radiolocation is allocated on a secondary basis in all three Regions. The European Common Proposals to WRC-2000 noted that the only primary service allocated in the band 17.3-17.7 GHz is the FSS (Earth to space), and that the band is considered of significant interest for point-point and point-multipoint systems in the fixed service.

U.S. View:

- The requirements of all existing allocated services must be taken into account when considering an allocation to the fixed service in the 17.3-17.7 GHz band.
 - Studies should be completed confirming the feasibility of sharing between the fixed service and the currently allocated services. (April 10, 2001)
-

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.21: to consider the progress of the ITU-R studies concerning the technical and regulatory requirements of terrestrial wireless interactive multimedia applications, in accordance with Resolution 737 (WRC-2000) with a view to facilitating global harmonization;

ISSUE: What if any actions are needed by the ITU-R to facilitate the development of Terrestrial Wireless Interactive Multimedia.

BACKGROUND: At WRC-2000, a proposal from several European administrations indicated a desire to address spectrum for Terrestrial Wireless Interactive Multimedia technologies and applications. After much discussion, a very open agenda item was developed to consider a progress report on the studies related to this issue. Among the items to be studied are the regulatory means to facilitate the worldwide harmonization of spectrum for Terrestrial Wireless Interactive Multimedia, and to review service definitions in the light of convergence of applications, if necessary.

WRC-2000 also decided that any allocation changes or regulatory work on this issue would be discussed at WRC-06.

U.S. VIEW: The U.S. does not see a requirement to harmonize Terrestrial Wireless Interactive Multimedia applications on a global basis. Noting that WRC-03 is tasked to only consider the progress of the ITU-R studies, the U.S. believes that no action will be required by WRC-03. ITU-R studies should focus on producing a concise definition of Terrestrial Wireless Interactive Multimedia, identification criteria, examination of appropriate technologies for multimedia delivery, identifying any unnecessary restrictions in the current radio regulations and future regulatory approaches that may be appropriate. (April 10, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.23: to consider realignment of the allocations to the amateur, amateur-satellite and broadcasting services around 7 MHz on a worldwide basis, taking into account Recommendation 718 (WARC-92).

ISSUE: to have the same spectrum allocation for the amateur/amateur-satellite services in all three ITU Regions.

BACKGROUND: As part of a long standing historical situation, the amateur/amateur satellite exclusive allocation in Region 2 goes from 7000 to 7300 kHz, while it goes only from 7000 to 7100 kHz in Regions 1 and 3. The other 200 kHz for Regions 1 and 3 are allocated exclusively to the broadcasting service. The amateur radio community has been trying to “realign” this “imbalance” for decades. WRC-2000 for the first time specified that the agenda item be on the agenda for the next WRC, in this case WRC-03.

Although the term “realign” invokes a feeling of ease of accommodation, this agenda item is liable to be very controversial. It all depends on the way of looking at how much spectrum to “realign”. Through Working Party 8A, for example, the amateur/amateur-satellite representatives have documented two alternatives: (a) from 6900 to 7200 kHz for the amateur/amateur-satellite service and (b) from 7000 to 7300 kHz. It is unlikely that the broadcasting service community will wish to relinquish any spectrum, particularly since this spectral region is within the 4 to 10 MHz spectral region, where under WRC-03 agenda item 1.36 the broadcasters are in effect asking for more spectrum.

It is equally unlikely that the amateur/amateur-satellite service proponents will propose reducing the amateur/amateur-satellite allocation in Region 2 so that the “realignment” would take away spectrum just to have equal amounts for each Region.

Because of the potential impact of such realignment, the agenda item will most likely become an allocation item involving the other allocated services.

U.S. VIEW: To accommodate the desire to have the same spectrum allocation in all three Regions for the amateur/amateur satellite services in the frequency spectrum range around 7 MHz, the U.S. believes that careful consideration will need to be given to the needs of the fixed service and the broadcasting service in this part of the frequency spectrum. The common amount of spectrum and its specific location for any adjustments of the amateur/amateur satellite services allocation will need to be determined at WRC-03 to the satisfaction of all these services. The spectrum allocated on an exclusive basis to the maritime mobile, aeronautical mobile (OR) and aeronautical mobile (R) services should not be considered for any reallocation. (April 10, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.25: to consider, with a view to global harmonization to the greatest extent possible, having due regard to not constraining the development of other services, and in particular of the fixed service and the broadcasting-satellite service, regulatory provisions and possible identification of spectrum for high-density systems in the fixed-satellite service above 17.3 GHz, focusing particularly on frequency bands above 19.7 GHz

ISSUES:

- Possible identification of spectrum for high-density systems in the fixed-satellite service (HD-FSS) above 17.3 GHz
- Advantages and disadvantages associated with focusing particularly on frequency bands above 19.7 GHz
- Sharing between HD-FSS systems and existing and planned services and systems
- Regulatory provisions associated with identification of spectrum for HD-FSS

BACKGROUND: WRC-97 and WRC-2000 identified fixed service (FS) bands in the 31 GHz, 37.0-43.5 GHz and 55 GHz range for high-density applications. No bands have been specifically identified for HD-FSS, which is characterized by the use of small, ubiquitously deployed user terminals. The CPM Report for WRC-2000 noted that sharing between the FS and the FSS has been shown to be technically feasible, particularly where the FS and/or the FSS would not rely on ubiquitous deployment of terminals. Sharing between HD-FS and HD-FSS would be difficult since it is not practical to coordinate ubiquitous use of HD-FS and HD-FSS terminals in the same coverage area on a station-to-station basis.

WP 4-9S, the lead ITU-R study group for this agenda item, is examining issues related to possible identification of FSS frequency bands for HD-FSS from 17.3 GHz through 86 GHz. Among the frequency bands under consideration in WP 4-9S are the 18.8-19.3 GHz, 19.7-20.2 GHz and 40-42 GHz (space-to-Earth) and 28.35-29.1 GHz, 29.25-30.0 GHz and 48.2-50.2 GHz (Earth-to-space) bands. Many administrations have submitted notices to the ITU for FSS systems in these bands. Some systems propose using portions of these bands for global FSS systems using both the geostationary orbit (GSO) and non-GSO that will provide service to small, ubiquitously deployed user terminals. A number of GSO and non-GSO FSS systems with other types of earth stations and characteristics have already been brought into use or are planned to be brought into use throughout the 17.8-21.2 GHz (space-to-Earth) frequency band. Technical compatibility between HD-FSS satellite systems and other space networks would be achieved through inter-system coordination or other existing mechanisms currently applied by the ITU Radio Regulations. Some of the frequency bands being considered for HD-FSS are also shared with other services, including the FS and the broadcasting-satellite service.

U.S. VIEW:

- Identification of FSS spectrum for HD-FSS does not preclude use of these bands by other services to which they are allocated.
- The U.S. opposes changes to the allocations in the current International Table of Frequency Allocations (WRC-2000) under this agenda item.
- Identification of spectrum for HD-FSS does not obviate the need for satellite network coordination or require the imposition of additional regulatory constraints such as power flux-density limits.
- The current rights of GSO and non-GSO FSS systems should be maintained. (April 13, 2001).

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.30[b]: to consider possible changes to the procedures for the advance publication, coordination and notification of satellite networks in response to Resolution 86 (Minneapolis, 1998)

ISSUE [b]: Coordination-Arc Approach - Potential modifications to Articles **S9** and **S11** of the Radio Regulations (RR) and associated appendices to the RR (e.g., Appendix **S4**) with respect to the coordination-arc concept.

BACKGROUND: Resolution **86** (Minneapolis, 1998) resolves to request WRC-2000 and subsequent WRCs to continually review and update the advance publication, coordination and notification procedures, including the associated technical characteristics, and the related Appendices of the Radio Regulations, so as to ensure that they reflect the latest technologies, as well as to achieve additional simplification and cost savings for the Radiocommunication Bureau and administrations.

Simple methods are needed for identifying the necessary co-frequency GSO FSS networks with which coordination must take place and which can be used in fulfillment of the objectives of Resolution **86**. WRC-2000 adopted Resolution **55** to bring into effect temporary procedures for improving satellite network coordination, including a coordination-arc concept to replace the Appendix **S8** ($\Delta T/T$) coordination threshold, in certain FSS frequency bands, in determining which administrations and networks are affected by a network entering the coordination phase. The determination of the need for coordination between GSO FSS networks is based on coordination arcs of ± 10 degrees, in the bands 3 400-4 200 MHz, 5 725-5 850 MHz (Region 1) and 5 850-6 725 MHz, ± 9 degrees in the bands 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz (Region 2), 12.2-12.5 GHz (Region 3), 12.5-12.75 GHz (Regions 1 and 3), 12.7-12.75 GHz (Region 2), and 13.75-14.5 GHz, and ± 8 degrees in the bands 17.7-20.2 GHz and 27.5-30.0 GHz about the nominal orbital positions of those networks. An administration may request that a co-frequency GSO FSS satellite network outside the coordination arc be included in coordination when the administration can demonstrate by analysis that the increase in the system noise due to the proposed network ($\Delta T/T$) exceeds 6%. A co-frequency GSO FSS satellite network within the coordination arc may also be excluded from the coordination when the increase in system noise to the network is less than 6%. Although it is unlikely that WRC-2003 will see an expansion of the coordination-arc concept to other bands without agreement on the arcs within Study Group (SG) 4; one or more nations may propose to expand the arc concept to other bands.

U.S. VIEW: The coordination-arc concept should be limited to the frequency bands identified by WRC-2000 unless SG4 comes to an agreement on additional specific FSS bands that warrant the use of the coordination-arc concept and develops appropriate coordination arcs for those other FSS bands. The effectiveness of the coordination arc approach in improving satellite network coordination procedures should be demonstrated before expanding the concept to other bands. (April 13, 2001)

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.30[c]: to consider possible changes to the procedures for the advance publication, coordination and notification of satellite networks in response to Resolution **86** (Minneapolis, 1998)

ISSUE [c]: Reduction of Data Requirements - Potential modifications to Articles **S9** and **S11** of the Radio Regulations (RR) and associated appendices to the RR (e.g., Appendix **S4**) with respect to the amount and type of information submitted to the Radiocommunication Bureau for coordination and notification.

BACKGROUND: Resolution **86** (Minneapolis, 1998) resolves to request WRC-2000 and subsequent WRCs to continually review and update the advance publication, coordination and notification procedures, including the associated technical characteristics, and the related Appendices of the Radio Regulations, so as to ensure that they reflect the latest technologies, as well as to achieve additional simplification and cost savings for the Radiocommunication Bureau and administrations.

There is still a 32-month backlog for ITU publication of coordination special sections for satellite networks. WRC-2003 may see proposals to simplify Appendix **S4** to speed up processing of coordination requests. There has been a proposal within WP4A such that a minimum amount of information would be sent to the BR for coordination. The WP4A proposal may proceed successfully through the Study Group process and become a proposal to WRC-2003.

The idea of the WP4A proposal is to submit to the Bureau only the data for the most interfering links and the most sensitive links to interference. This minimum amount of information is all that is needed by the BR to determine affected administrations or for other administrations to determine whether they need to be brought into the coordination procedure. However, in practice administrations require information in greater detail to effect coordination. Furthermore, it may be difficult to identify the most interfering and most sensitive carriers since the carrier parameters of the satellite to which interference is caused or from which interference is received, the modulation type, and channel plan may need to be taken into account.

Some satellite operators have found it difficult to obtain clarification on network characteristics prior to coordinations. Reductions in the mandatory Appendix **S4** coordination/notification information (Ap**S4/II**) would make it even more difficult to perform the necessary interference analysis resulting in operators not being fully prepared for coordination discussions/meetings.

There are other means to simplify the data solely by eliminating redundant information. Information in the current Appendix **S4** filings is essentially repeated for many networks (e.g., for each polarization and for each beam), even if it is identical. Significantly reformatting the Appendix **S4** data to reduce repetition could lead to a need to modify the ITU software for capturing, validating, and storing the data.

U.S. VIEW: Any reduction in mandatory Appendix **S4** coordination/notification information (ApS4/II) should be approached cautiously so that information essential to interference analyses is not eliminated. Additionally, any reduction in the **ApS4/II** data should not inadvertently eliminate administrations or networks for which coordination would be required under the existing Radio Regulations and Appendix **S4**. The benefits from simplifying or reformatting the Appendix **S4** data to reduce repetition should be carefully weighed against the cost of consequential modifications to the Bureau software for capturing, validating, and storing the data. Elimination of redundant information could be acceptable with appropriate cross-references. (April 27, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.32a: to consider technical and regulatory provisions concerning the band 37.5-43.5 GHz, in accordance with Resolutions **128 (Rev.WRC-2000)** and **84 [COM5/28] (WRC-2000)**;

ISSUE: Protection of Radio Astronomy in the 42.5 - 43.5 GHz Band:

- Do the power flux-density limits of footnote **S5.551G [S5.RAS]** provide effective protection to the radio astronomy service?
- What technical and operational measures can be identified to protect the radio astronomy service?

BACKGROUND: The 42.5 – 43.5 GHz band is allocated to the radio astronomy service on a primary basis, while the adjoining frequency bands on the lower side are allocated to the fixed-satellite (space-to-Earth) and broadcasting-satellite services. To protect the radio astronomy allocation, WRC-2000 established a new footnote **S5.551G** providing provisional aggregate power flux-density limits for emissions falling in the band 42.5 - 43.5 GHz from space-to-Earth links in the 41.5 – 42.5 GHz band. These provisional limits are being reviewed in accordance with Resolution **128**. ~~(February 6, 2001)~~

U.S. VIEW:

- The provisional power flux-density limits of footnote **S5.551G [S5.RAS]** are appropriate in that they provide some protection to the radio astronomy service. (April 27, 2001)
-

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 1.32b: to consider technical and regulatory provisions concerning the band 37.5-43.5 GHz, in accordance with Resolutions **128 (Rev.WRC-2000)** and **84 [COM5/28] (WRC-2000)**;

ISSUE: PFD Limits in the 37.5–43.5 GHz Band;

- Do the power flux-density limits applicable to the 37.5-42.5 GHz band adversely affect the operation of the fixed-satellite service in that band?
- Are the power flux-density limits in the 37.5-38 GHz band adequate to protect earth stations in the space research service in that band operating under unfaded conditions?

BACKGROUND: Various segments of the 37.5–43.5 GHz frequency band are allocated to the fixed-satellite, broadcasting-satellite, space research, and mobile-satellite services on a primary basis. Segments of the band are also being used for high-density fixed service systems, generally very short links between antennas at different levels on buildings. Such links can have large elevation angles; contrary to the usual assumption for fixed service links, upon which sharing between the fixed and fixed-satellite services is based. The high-density fixed service links require power flux-density limits on fixed-satellite service downlinks that are much more stringent than usual.

WRC–2000 developed power flux-density limits in accordance with Nos. **S21.16.10** and **S21.16.12** as well as other provisional PFD limits. Resolution **84** invites review of the PFD limits as well as other studies of compatibility between the fixed and space services.—(February 6, 2001)

U.S. VIEW: The provisional power flux-density limits applicable to the fixed and broadcasting-satellite services in the 37.5-42.5 GHz band and the space research service in the 37-38 GHz band are adequate to protect terrestrial services and should be retained in Article 21 of the Radio Regulations. These limits represent a hard-fought compromise between the fixed service and the space services and should not be modified. (April 27, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2000 Agenda Item 1.33: to review and revise technical, operational and regulatory provisions, including provisional limits in relation to the operation of high altitude platform stations within IMT-2000 in the bands referred to in No. **S5.388A**, in response to Resolution **221** (WRC-2000);

Resolution 221 (WRC-2000), “Use of high altitude platform stations providing IMT-2000 in the bands 1885-1980 MHz, 2010-2025 MHz and 2110-2170 MHz in Region 1 and 3 and 1885-1980 MHz and 2110-2160 MHz in Region 2”

ISSUE: Resolution 221 asks for additional technical, operational and regulatory studies to be conducted in order to review and, if necessary, revise the provisional pfd limits. Resolution 221 also asks for consideration of appropriate regulatory and technical provisions to allow bilateral coordination of HAPS in IMT-2000 systems with affected neighboring administrations.

BACKGROUND: Provisions for operation of HAPS were originally made at WRC-97, for HAPS providing FS operations in the 47.2-47.5 GHz and 47.9-48.2 GHz bands (**S5.552A**). A definition of HAPS was also added to S1.66A. The use of HAPS as base stations to provide terrestrial IMT-2000 was considered at WRC-2000, resulting in provisions to facilitate this being added to the Radio Regulations **S5.388A**. Resolution **221** from WRC-2000 includes provisional co-channel and out-of-band power flux-density limits for HAPS operation, for the protection of other station either sharing the same band or operating in adjacent bands.

Additional ITU-R study is needed to consider compatibility of HAPS within IMT-2000 with some other services that share portions of these bands on a co-primary basis.

U.S VIEW: Introduction of HAPS in the IMT-2000 bands shall not impose constraints upon existing primary allocated services in these bands. (April 9, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEWS FOR WRC-03

WRC-2003 Agenda Item 1.34: to review the results of studies in response to Resolution **539 [COM4/6] (WRC-2000)** concerning threshold values for non-GSO BSS (sound) in the band 2 630-2 655, and to take actions as required.

ISSUE: ~~Sharing criteria~~ What sharing criteria is needed to accommodate highly elliptical orbit BSS_(sound) systems in a band with co-allocations with the fixed and mobile services?

BACKGROUND: WARC-92 allocated frequencies for the BSS_(sound) in the band 2 535 to 2 655 MHz. Some administrations in Regions 1 and 3 accepted the allocation.

Since WARC-92, until recently, the technical/sharing concentration in the Study Groups of the ITU-R for BSS_(sound) systems have dealt with systems that would use geo-stationary orbits. Recently, as certain technical data from studies and experiments were developed, interest has increased in the use of highly elliptical non-geo-stationary orbits for a few satellites in the system. Each satellite can spend most of its orbital period at high elevation angles for locations in medium to high latitudes. This mitigates against some of the foliage and building blockage that a geo-stationary satellite faces when serving higher latitude coverage areas. When properly synchronized a few highly elliptical orbit satellites will provide continuous coverage service.

Japan is developing such a satellite system for use within the upper 25 MHz of the band from 2 535 to 2 655 MHz allocated at WARC-92.

Sharing criteria are needed for this type of orbital system at these frequencies. The results of the relevant studies are to be presented to WRC-03. ~~(February 6, 2001)~~

~~U.S. VIEW:~~ U.S. VIEW: The U.S. supports the need for a thorough analysis, and review at WRC-03, of the sharing considerations in the 25 MHz band specified (2 630 – 2 655 MHz) between BSS (sound) systems using highly elliptic orbits and the other uses of the band as specified in Article S5, particularly the mobile service. (April 27, 2001).

Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEWS ON WRC-03

WRC-2003 Agenda Item 1.36: to examine the adequacy of the frequency allocations for HF broadcasting from about 4 MHz to 10 MHz taking into account the seasonal planning procedures adopted by WRC-97.

~~**ISSUE:** All things considered, do HF international broadcasters need additional frequency allocations in the lower part of the HF spectrum in order to serve their listeners with clear signals during all portions of the 11 year sunspot cycle?~~

ISSUE: To determine the amount of additional spectrum required, if any, by the broadcasting service in the lower portion of the HF spectrum and likely bands within the 4 – 10 MHz band where an allocation accommodation might be made.

BACKGROUND: 790 kHz of additional frequency bands were allocated at WARC-92 to the HF broadcasting service. Of this amount, only 200 kHz were allocated in frequencies below 10 MHz. Frequencies below 10 MHz are the most desirable ones, for propagation reasons, for many circuit applications, particularly during the several years of low sunspot activity. This is encountered during the seasonal planning coordination meetings that precede every six-month HF broadcasting schedule development. And it is manifest in actual broadcasting where interference is a severe problem at these lower frequencies and there also results lower service levels for those broadcasts that have to accept poorer propagation conditions at the higher frequencies because of limited capacity below 10 MHz.

Therefore, after WARC-92 broadcasters proposed an agenda item to deal with this problem. Agenda item 1.36 for WRC-03 has followed from that initial step many years ago is the final, approved version of this attempt.

Any additional allocation for HF broadcasting will impact on the fixed service, either by removing the allocation over a period of time or permitting some level of sharing between the services. This assumes that the studies on capacity vs. demand, etc. that will be completed for inclusion in the CPM-02 report show a clear inadequacy of the existing HF broadcasting service allocations in the HF bands below 10 MHz.

Parenthetically, agenda item 1.23, on alignment of the amateur/amateur-satellite and broadcasting services around 7 MHz, might be considered to be a “subset” of this agenda item. (February 22, 2001)

U.S. VIEW:

1. The U.S. recognizes that there is a belief among HF broadcasters that they are prevented from providing a good quality service under many propagation conditions because there is an undersupply of spectrum for the Broadcasting Service in the bands below 10 MHz. Thus, the U.S. agrees with the need for a thorough study of the consequences of the current situation, augmented with projections of future use of HF bands for broadcasting. There should be a clear set of findings from this study of the maximum amount of spectrum needed, as well as what can be accomplished with lesser amounts, including no new spectrum.

2. Concomitantly, the U.S. believes that study work is required on the current situation and projections of the use of the 4 – 10 MHz spectral region for the other Services that have allocations there.

3. Furthermore, the U.S. believes that the bands allocated on an exclusive basis to the maritime mobile, aeronautical mobile (OR), and aeronautical mobile (R) services should not be considered for any reallocation. (April 27, 2001)

Radio Conference Subcommittee (RCS)
Preparation for ITU Radiocommunication Conferences

DRAFT PRELIMINARY VIEW FOR WRC-03

WRC-2003 Agenda Item 2: to examine the revised ITU-R Recommendations incorporated by reference in the Radio Regulations communicated by the Radiocommunication Assembly, in accordance with **Resolution 28 (Rev. WRC-2000)**, and to decide whether or not to update the corresponding references in the Radio Regulations, in accordance with principles contained in the Annex to **Resolution 27 (Rev. WRC 2000)**;

ISSUE: Incorporation by Reference

BACKGROUND: A number of provisions of the Radio Regulations make reference to the ITU-R Recommendations. As the ITU-R Recommendations are updated, it is necessary to review the Radio Regulations to see if these references should be revised. Resolution 27 (Rev. WRC-2000) clarifies the procedures for incorporation by reference in the Radio Regulations so that WRC 2003 will be the last general opportunity to review all existing references. Resolution 27 and Regulations. Resolution 28 must be reviewed together and (Rev. WRC-2000) limits the WRC to reviewing only those Resolutions and Recommendations that are linked to national proposals. (February 6, 2001) incorporated by reference in the past that the Radiocommunication Assembly has communicated to the WRC as being revised during the elapsed study period. Resolution 28 (Rev. WRC-2000) also specifies that the Director will present to the U.S. VIEW: CPM an initial list of those recommendations incorporated by reference that have been revised or are likely to be revised in time for the WRC.

U.S. VIEW: In accordance with Resolution 28 (Rev. WRC-2000), the United States will review those revised recommendations listed by the Director for the CPM and those revised recommendations communicated by the Radiocommunication Assembly to determine whether the updated version should be incorporated by reference in the Radio Regulations in place of the previous version. (April 27, 2001)
